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Pisana provjera
Algebarski izrazi

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1.E

1. Pojednostavi

a) $(x-2y)(x+2y)-(2x-y)(2x+y)$

$= x^2 - 4y^2 - 4x^2 - y^2$ +1

$= -3x^2 - 3y^2$

$= -3(x^2+y^2)$ +1

b) $\left(\frac{3}{8}a + \frac{1}{6}b\right)^2 = \frac{9}{64}a^2 + \frac{1}{8}ab + \frac{1}{36}b^2$ +1

2. Pojednostavi

$2a(3a-2b)^2 + 6b(2a-3b)^2$

$= 2a(9a^2 - 12ab + 4b^2) + 6b(4a^2 - 12ab + 9b^2)$ +1

$= 18a^3 - 24a^2b + 8ab^2 + 24a^2b - 72ab^2 + 54b^3$

$= 18a^3 - 64ab^2 + 54b^3$ +1

3. Faktoriziraj

$27^m + 3\cdot 18^m + 3\cdot 12^m + 8^m = (3^m + 2^m)^3$

$\underline{I}^3 = (3^m)^3$

$3\cdot\underline{I}^2\cdot\underline{II}$

$3\cdot\underline{I}\cdot\underline{II}^2$

$\underline{II}^3 = (2^m)^3$

+1

4. Pojednostavi

$$(x+1)^4 - x^4 + 2x^2 - 1 = (x+1)^4 - (x^2-1)^2 \quad (+1)$$

$$= (x+1)^4 - \left[(x-1)(x+1)\right]^2$$

$$= (x+1)^4 - (x-1)^2 (x+1)^2 \quad (+1)$$

$$= (x+1)^2 \left[(x-1)^2 - (x-1)^2\right] \quad (+1)$$

$$= (x+1)^2 \left[(x+1-(x-1))(x+1+x-1)\right]$$

$$= (x+1)^2 \left[(x+1-x+1)(x+1+x-1)\right] \quad (+1)$$

$$= (x+1)^2 (2 \cdot 2x)$$

$$= (x+1)^2 \cdot 4x \quad (+1)$$

5. Pojednostavi

$$\frac{a^3b - ab^3}{ab^2 - a^2b} = \frac{ab(a^2-b^2)}{ab(b-a)} = \frac{a^2-b^2}{b-a} = \frac{(a-b)(a+b)}{b-a}$$

(+1) (+1)

$$= \frac{-(a+b)\cancel{(b-a)}}{\cancel{b-a}} = -(a+b) \quad (+1)$$

6. Pojednostavi

$$\frac{x+2}{2x-4} + \frac{2-x}{3x+6} + \frac{5x^3+8}{24-6x^2}$$

$$= \frac{x+2}{2(x-2)} + \frac{2-x}{3(x+2)} + \frac{5x^3+8}{6(4-x^2)} \quad (+1)$$

$$= \frac{x+2}{2(x-2)} + \frac{2-x}{3(x+2)} + \frac{5x^3+8}{6(2-x)(2+x)} \quad (+1)$$

$$= \frac{3(x+2)^2 + 2(x-2)(2-x) - 5x^3 - 8}{6(x-2)(x+2)} \quad (+1)$$

$$= \frac{3x^2+12x+12-2x^2+8x-8-5x^3-8}{6(x-2)(x+2)}$$

$$= \frac{-5x^3+x^2+20x-4}{6(x-2)(x+2)} \quad (+1)$$

$$= \frac{5x(4-x^2)+x^2-4}{6(x-2)(x+2)}$$

$$= \frac{-5x(x^2-4)+x^2-4}{6(x-2)(x+2)} \quad (+1)$$

$$= \frac{(x^2-4)(1-5x)}{6(x-2)(x+2)}$$

$$= \frac{1-5x}{6} \quad (+1)$$